

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU2004/000124

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. ⁷: F01B 5/00, 13/04; F02B 75/26

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

See below under "Electronic database consulted"

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

AU: IPC F01B 5/00, 13/-, F02B 75/26

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DWPI: F01B 5/-, 9/-, 13/-; F02B 57/-, 75/26, 75/32 with keywords ; gear, pinion and crank

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	AU 200020827B2 (HUANG) 14 September 2000 Figures 1,2 and accompanying description	1-10, 16,17
Y	Figures 1,2 and accompanying description	11-15, 18
Y	DE 3023363A1 (SCHULTZ) 7 January 1982 The whole document	11-15, 18
X	US 5967102A (HUANG) 19 October 1999 Figures 1-5, 9, 10 and accompanying description	1-10, 16, 17
X	EP 0964136A1 (HUANG) 15 December 1999 Figures 1-5, 9, 10 and accompanying description	1-10, 16, 17

☒ Further documents are listed in the continuation of Box C

☒ See patent family annex

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search
2 April 2004

Date of mailing of the international search report

1.3 APR 2004

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2990820A (SAIJO) 4 July 1961 Figure 1 and accompanying description	1-10, 16, 17
X	US 4741300A (BENSON) 3 May 1988 Figures 1, 7 and accompanying description	1-10, 16, 17
X	CH 376317A (RYSER) 15 May 1964 The whole document	1-10, 16, 17

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See Supplemental Box

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

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Supplemental Box

(To be used when the space in any of Boxes I to VIII is not sufficient)

Continuation of Box No: III

The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Searching Authority has found that there are different inventions as follows:

1. Claims 1-10, 16 and 17 are directed to an engine. It is considered that a cylinder block provided with reciprocating pistons and rotating relative to a fixed portion comprises a first "special technical feature".
2. Claims 11-15 and 18 are directed to a method of effecting a cycle of an engine. It is considered that a working fluid in a cylinder bore expands and rotating the cylinder block by means of a pinion gear connected to a crank shaft and a ring gear connected to a fixed portion comprises a second "special technical feature".

These groups are not so linked as to form a single general inventive concept, that is, they do not have any common inventive features, which define a contribution over the prior art. The common concept linking together these groups of claims is a rotating cylinder block. However this concept is not novel in the light of AU 200020827B2. Therefore these claims lack unity a posteriori.

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Information on patent family members

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This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member	
AU	2082700	AU	728019
DE	3023363	NONE	
US	5967102	NONE	
EP	0964136	NONE	
US	2990820	NONE	
US	4741300	NONE	
CH	376317	NONE	
END OF ANNEX			